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leaving the upper basin free. Thence to the Gulf it followed the western back swamps, the main river not overflowing below Vicksburg. The safety of the upper Yazoo basin resulted not alone from the high ground along the Mississippi, but also from the belt of high unfloodable ground that divides the upper Yazoo and the Sunflower basins. This belt is mentioned in the text as an extension of Crowley's ridge (on the west side of the Mississippi, above Helena). It is truly in line with Crowley's ridge, but the two are probably of altogether different origins. Crowley's ridge is an isolated part of the uplands that border the flood plain on the west (see SCIENCE, I., 1895, 605); but the unfloodable belt between the Yazoo and the Sunflower probably marks a former aggraded path of the Mississippi, deserted at the time of some ancient flood.

#### THE FIJI CORAL REEFS.

A LETTER from Alexander Agassiz, on 'The Islands and Coral Reefs of the Fiji Group' (*Amer. Journ. Sci.*, V., 1898, 113-123), presents matter of much importance in connection with theories of reef formation. Instead of finding, as was expected from the accounts by Darwin and Dana, that a progressive subsidence would account for the barrier reefs of the Fiji group, numerous elevated reefs were seen at heights of 600 to 800 feet; and a number of barrier reefs and atolls were discovered to be only the denuded remnants of reefs formerly elevated. Boring into the reefs was regarded as unnecessary, for the natural sections exposed by the elevated reefs revealed their structure clearly. While the elevated reef deposits may have been formed during a period of subsidence, that movement cannot be included in the present geological period, nor can it account for the existing distribution of reefs at sea-level, where recent coral growth is thought to have added only a relatively thin crust to a pre-existent

mass. A possible relation of circular or oval atolls to a foundation upon the worn-down rim of a large volcanic crater (caldera) is suggested; calderas being of frequent occurrence, and having outlines and dimensions similar to those of reefs near by.

The separation of the smaller volcanic islands from the larger ones in the Fiji group is taken as evidence of long continued denudation, largely by the sea, after the uplift of the region. The possibility of some of this separation being due to subsidence is not explicitly considered. The importance of subsidence in the formation of reef deposits may still be maintained, but in the Fiji group it seems to have little bearing on present reef outlines.

#### THE MAZAMAS.

THE Mazamas, a society of practical mountaineers organized on the summit of Mt. Hood, in July, 1894, hold their annual meetings on mountain tops and publish their proceedings in '*Mazama*, a record of mountaineering in the Pacific Northwest' (Portland, Oregon); numbers for 1896 and 1897 having been issued. The second is the Crater Lake number, which gives a most enjoyable account of the gathering there in 1896, already noted in SCIENCE (June 18, 1897). Essays on the discovery, geography, geology, botany, zoology and bibliography of Crater Lake, with many illustrations from photographs, make this number of high value, deserving of earlier mention than in this belated note.

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#### CURRENT NOTES ON METEOROLOGY.

##### METEOROLOGICAL OBSERVATIONS DURING THE ECLIPSE OF JANUARY 22.

THE meteorological observations made at Viziadurg during the eclipse of January 22d, as noted by Mr. J. Eliot, Meteorological Reporter to the Government of India,

in *Nature* for February 17th, were much less striking than was anticipated. The influence of the eclipse on the barometer was either nil or so small that a careful study of the tracings will be necessary in order to detect it. The temperature rose more slowly than usual from 11 a. m. until about totality, when it fell rapidly about 5° F., and was constant for some time after totality, but the fall in temperature was partly at first due to the usual change from land winds to sea breezes, which usually takes place at noon. The solar radiation thermometer was the only instrument which showed any considerable influence due to the solar eclipse. This thermometer rose steadily from sunrise until about five minutes after the commencement (*i. e.*, 11:15 a. m.), when it read 144°. It fell continuously and with increasing rapidity until the end of totality, when it registered 81.5°,—practically the temperature of the air. During the latter part of this period it fell at the rate of upwards of 4° in five minutes.

#### HANN'S KLIMATOLOGIE.

THE publication of a second edition of Hann's *Klimatologie* emphasizes anew the urgent need that exists for a standard work on climatology in the English language. At present there is no book of the kind in English, and indeed there is little likelihood that anyone will attempt such a work, since Dr. Hann has so thoroughly and so masterfully presented the subject, on which he is the acknowledged authority the world over. The rapidly growing interest in meteorology and climatology in the universities and schools of the United States makes an English text-book very desirable, if not essential, and it must be the hope of American teachers and students of these two branches of science that an English translation of the new edition of Hann's work will not long be delayed.

#### BAROMETRICAL DETERMINATION OF HEIGHTS.

THE 'Barometrical Determination of Heights' is the title of a neat little book of 28 pages by Dr. F. J. B. Cordeiro, of the United States Navy. The essay was originally written in competition for the Hodgkins Fund prize (the preface has it *Hodgkin*), offered by the Smithsonian Institution. The problem of barometrical hypsometry is reviewed, and a new formula is proposed which, the author states, 'is rigidly accurate in theory and which in practice will give reliable results under all conditions.'

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#### CURRENT NOTES ON ANTHROPOLOGY.

##### THE ABORIGENES OF WESTERN ASIA.

FEW localities on the globe have greater historic interest than Asia Minor and Syria; and the traits of the oldest inhabitants of those regions have, therefore, some special importance. The subject was discussed before the anthropological section of the International Medical Congress, at Moscow, last August, with an abundant difference of opinion. Professor Sergi maintained that the most ancient skull-form found there was markedly dolichocephalic; while Dr. von Luschan asserted that it was 'hypsibrachicephalic,' the purest modern examples of which are among the Armenians. Professor Virchow disagreed with von Luschan, and the fact, generally acknowledged, that the Armenians, who are a branch of the Aryan family, were immigrants into Asia Minor, seems to be in conflict with their identification with the primitive settlers.

#### ETHNOLOGICAL STUDY OF CULTIVATED PLANTS.

AT the last meeting of the German Anthropological Society, Dr. Hahn read a paper on cultivated plants in reference to ethnology. It is a significant fact that the Australians, before the discovery, did not